TESTIMONY OF
BENJAMIN H. GRUMBLES
ASSISTANT ADMINISTRATOR, OFFICE OF WATER
U.S. ENVIRONMENTAL PROTECTION AGENCY
BEFORE THE
WATER RESOURCES AND ENVIRONMENT SUBCOMMITTEE OF THE HOUSE TRANSPORTATION AND INFRASTRUCTURE COMMITTEE

March 7, 2007

Introduction

Good afternoon Chairwoman Johnson and Members of the Subcommittee. I am Benjamin H. Grumbles, Assistant Administrator for the Office of Water at the U. S. Environmental Protection Agency. Thank you for the opportunity, on behalf of Administrator Stephen Johnson and the Great Lakes Interagency Task Force, to discuss the ecological and economic threat of aquatic invasive species in the Great Lakes and the Administration's many efforts to confront this serious challenge. Federal agencies are working together through the Task Force, as well as with other State, local, and Tribal partners in the region, to restore and protect the Great Lakes, one of our country's most important environmental treasures. I am here today representing the Interagency Task Force.

President Bush's Great Lakes Executive Order of May 18, 2004 (E.O. 13112), which established the Interagency Task Force (IATF), has strengthened interagency coordination on a wide variety of issues, and the threat of aquatic invasive species is a prime example of where we are effectively working together to investigate issues, share information, and develop solutions to these difficult problems. The IATF uses a strategy developed by the Great Lakes Regional Collaboration (GLRC), as a guide in directing its invasive species activities. Seven of the 48 Near Term Actions committed to by the Interagency Task Force to help support the GLRC Strategy are invasive species-related. Federal Agencies are implementing these near term actions over the next two years.

Background

The Great Lakes ecosystem is a vast but fragile environment highly susceptible to the disruptive impacts of aquatic invasive species that are introduced via ballast water and other routes. Ecological effects have been far reaching and continue to imperil the lakes. The US Ocean Commission reported that the economic impacts of invasive species can be substantial. For example, just within the Great Lakes, between 1989 and 2000, zebra mussels alone are estimated to have cost between $750 million and $1 billion in losses to natural resources, and damage to infrastructure. The primary vectors for Great Lakes aquatic invasive species include maritime commerce, canals and waterways, aquaculture, organisms in trade, and recreational activities.

To date, we have identified over 180 aquatic invasive species in the Great Lakes, and new aquatic invaders are being introduced at the rate of about one every eight months. The impact of introduced aquatic invasive species already in the system, from the sea lamprey to the zebra mussel, serves as a harbinger of economic and environmental costs to come if this crucial threat is not better controlled and prevented. The Great Lakes Fishery Commission estimates that $12-15 million is spent per year for sea lamprey control activities. Costs for the treatment and control of zebra mussel impacts on industrial and municipal facilities are estimated at $100-200 million annually in the Great Lakes.

In addition to the economic damage they can cause, invasive species can severely impact the fragile aquatic ecosystem of the lakes by disrupting the food chain or helping to spread diseases. Quagga mussels have been implicated in the disappearance of *diporeia*, a tiny shrimp-like organism that is a key food source at the bottom of food chain for many Great Lakes fish.

Scientists suspect that round gobies and quagga mussels have a role in the spread of Type E avian botulism which has killed tens of thousands of water birds in the Great Lakes.

Viral hemorrhagic septicemia, or VHS, is an Ebola-like virus for fish. VHS is usually limited to saltwater fish. The strain killing Great Lakes fish is believed to be a mutation of a VHS virus found in saltwater fish off the coast of eastern Canada near Nova Scotia. It has not yet been determined how the mutated saltwater virus arrived in the Great Lakes. VHS is sweeping across the Great Lakes, killing large numbers of important fish species including muskie, freshwater drum, yellow perch, smallmouth bass, bluegill, crappie, and gizzard shad.

Another menace knocking at the door of the Great Lakes are species of Asian carp. These fish were brought to the U. S. from China in the 1970's to clean up algae in Arkansas fish farms along the Mississippi River. Many of them escaped the fish ponds during the extreme flooding in 1993 and 1995. Asian carp can grow rapidly to over 100 pounds, jump like tarpon, and breed so fast that Australians nicknamed them "river rabbits." They consume two or three times their weight in plankton every day. They could have a devastating impact on the Great Lakes by out-competing native fish for plankton, which is the food base for the early life stages of native fish. Right now, the only thing holding them back from entering Lake Michigan is an electric barrier that sends a current through the water and keeps them from swimming past it. I know this Committee is well aware of the importance of maintaining and enhancing this protective barrier, which is being completed and operated by the U.S. Army Corps of Engineers.

Invasive species can also impact our use and enjoyment of the lakes. In decades past, die-offs of introduced alewives fouled Great Lakes beaches before an adaptive management program was introduced. More recently, stinking mats of *cladophora*, a green algae, which had become just a bad memory after

phosphorus controls were enacted, have re-appeared on Great Lakes beaches due, in part, to impacts from zebra and quagga mussels.

The newest Great Lakes invader is the bloody red shrimp (*Hemimysis anomala*) most recently reported in Lake Ontario in May 2006, and in Lake Michigan by the National Oceanic and Atmospheric Administration's (NOAA) Great Lakes Environmental Research Laboratory in November 2006. Agencies are assessing the extent and impact of this invasion.

It is important to note that invasive species problems in the Great Lakes can leap-frog across the nation. The Great Lakes are the aquatic gateway to the heartland of America, and a hot spot for aquatic species introductions to major interior water bodies of the United States.

One need only examine the spread of the zebra mussel and the quagga mussels to understand this. Quagga mussels were recently found west of the Continental Divide in lakes Mohave and Havasu in Arizona, and Lake Mead in Nevada. In the Great Lakes quagga mussels are replacing zebra mussels throughout the basin. The quagga mussels occupy a greater depth range and are not restricted to hard substrates due to their shell morphology. Zebra mussels are now outside the Great Lakes - St. Lawrence River system as far west as eastern Oklahoma, as far south as the Mississippi delta below New Orleans, Louisiana, and east as far as the Hudson River estuary north of New York City. Zebra mussels have fouled industrial and municipal water intakes, which must now be chemically treated on a regular basis throughout the summer months to keep them flowing. Quagga mussels will continue to cause these same problems.

Actions to Date

Federal Agencies are taking many important steps to prevent and control the spread of aquatic invasive species. Some highlights include:

- Federal agencies, including EPA, continue to serve on the National Invasive Species Council established under E.O. 13112, and on the Aquatic Nuisance Species Task Force created by the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990. Regional efforts are coordinated through the Great Lakes Regional Panel on Aquatic Nuisance Species. Since 1991, the U S. Fish and Wildlife Service has provided operating expenses for this important forum. Many Great Lakes invasive species initiatives have originated or been fostered by the panel membership, which includes all U.S. and Canadian federal agencies, the eight Great Lakes States and the province of Ontario, tribal authorities, regional agencies, user groups, local communities, commercial interests, and the university/research community.

- Through the Midwest Natural Resource Group (MNRG), federal agencies have developed an effort to assess and control terrestrial invasive species in the Great Lakes basin. The MNRG senior managers signed a November 2006 invasive species MOA, and the member agencies are now implementing an action plan to address terrestrial invasive species in the basin. This plan recognizes that aquatic and terrestrial invasive species are linked, and that efforts to control both need to complement one another. The National Park Service is the current leader of this effort.

- The Federal Interagency Task Force has created a Federal Aquatic Invasive Species Rapid Response Subcommittee to serve as a central point of contact for information and activities related to invasive species rapid response efforts.

- In order to develop better methods for estimating economic costs associated with aquatic invasive species, in July 2005, EPA co-sponsored a Federal - non-Federal workshop of expert economists and ecologists to discuss conceptual frameworks and bioeconomic tools for developing

credible regional and national aquatic invasive species economic impact estimates. EPA is now, with NOAA Sea Grant and the U.S. Geological Survey (USGS), leading an interagency effort to develop and test a bioeconomic approach to estimating aquatic invasive species regional economic impacts.

- The Great Lakes Fishery Commission continues its crucial effort to control the sea lamprey. Controlling lamprey populations has cost over $250 million to date, or about $12-15 million per year.

- U.S. Army Corps of Engineers continues to operate the electric carp barrier on the Chicago Sanitary and Ship Canal. This barrier is our last chance to prevent the migration of the Asian carp and other invasive fish species from the Mississippi River watershed into the Great Lakes ecosystem. In addition to the Corps' strong leadership on this important project, several Federal Agencies have contributed to testing the barrier, including EPA, the U.S. Coast Guard, and the U.S. Fish and Wildlife Service.

- A collaborative research program initially supported by NOAA, EPA, and U.S. Coast Guard continues to address ballast water management issues in "No Ballast On Board" Vessels or NOBOBs. These vessels transport aquatic organisms in small, unpumpable compartments within ballast tanks. NOAA's Great Lakes Environmental Research Laboratory continues to work with researchers to study the effectiveness of ballast water best management practices.

- EPA and the U.S. Coast Guard entered into a Memorandum of Understanding to develop protocols for assessing new treatment technologies using EPA's Environmental Technology Verification (ETV) Program. This program is designed to accelerate the entrance of new

environmental technologies into the domestic and international marketplace. A final draft of the protocols is now being validated by the Coast Guard and the Department of the Navy at the Navy's testing facility which has been recently enhanced to support ballast water technology testing and verification.

- In August 2003, EPA entered into an MOU with the U.S. Coast Guard to collaborate in the development of an Environmental Impact Statement (EIS) for the Coast Guard's upcoming proposed rulemaking to establish a ballast water treatment performance standard. We are a cooperating agency on that EIS, which is currently under development, along with NOAA, the U.S. Fish and Wildlife Service, and, most recently, the Department of Agriculture's Animal and Plant Health Inspection Service.

We recognize that detecting and managing invasive species is a responsibility we share with State and Local governments, as well as industry, boaters, anglers and other users of the resource. Education and outreach continues to be an important component of our efforts to control invasive species. The information we provide includes:

- U.S. Fish and Wildlife Service's outreach initiatives to educate the public on how they can prevent the spread of aquatic invasive species.

- Educational experiences through the U.S. Forest Service's collaboration with the John G. Shedd Aquarium in Chicago to create a new permanent exhibit bringing the public face-to-face with major aquatic invasive species in the Great Lakes.

- Technical guidance, such as EPA's 2005 document providing an overview of EPA authorities that may apply to aquatic invasive species rapid response or control actions. Created for natural resource managers, this

document identifies the authorities that apply to aquatic invasive species rapid response or control actions, and the steps required to quickly and fully comply with those authorities. The document also provides case studies in which state and local natural resource managers successfully obtained emergency exemptions and special local need registrations for aquatic invasive species eradication or control actions under the Federal Insecticide, Fungicide and Rodenticide Act.

Lastly, as part of our environmental protection and natural resource management activities, federal scientists aboard Great Lakes research vessels, like EPA's Lake Guardian, are our "eyes on the water." While prevention is most important, early detection provides the best opportunity to respond to invasive species that are already here. Federal scientists are often responsible for the first detection of new invasive species.

Legislative Issues

You may be aware of litigation in which several groups filed a lawsuit in December 2003 in the U.S. District Court for the Northern District of California (*Northwest Environmental Advocates et al. v. EPA*, No. C 03-05760 SI). The lawsuit challenges the denial of a rulemaking petition the litigants had submitted to EPA and seeks revocation of the Agency's long standing exclusion of discharges incidental to the normal operation of a vessel from requiring a Clean Water Act (CWA) permit. In September 2006, the Court issued an order vacating that regulatory exclusion as of September 30, 2008. Because that order was not limited to just ballast water discharges, it potentially implicates a variety of other discharges incidental to the normal operations of vessels, not only for the thousands of larger ocean-going ships with ballast tanks, but also, for example, approximately 13 million recreational vessels, 81,000 commercial fishing vessels, and 53,000 freight and tank barges operating in U.S. waters. Because we respectfully disagree with that decision, the Government, on November 16, 2006, filed a notice of appeal with the U.S. Circuit Court of Appeals for the Ninth Circuit.

I want to stress that this does not reflect a dismissal of the significant impacts of aquatic invasive species. Rather, we believe the Clean Water Act does not currently provide an appropriate framework for addressing ballast water and other discharges incidental to the normal operation of vessels.

EPA supports enactment of appropriate legislation to strengthen the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990, and the National Invasive Species Act of 1996 in order to ensure the establishment of environmentally-sound, uniform, Federal ballast water discharge standards and requirements. In particular, EPA believes that it is important that there is a strong framework in place for regulating ballast water in order to substantially reduce the threat of damaging invasions through the ballast water pathway. Although the ballast water discharge standards contained in the February 2004 International Maritime Organization's ballast water Convention are not as stringent as those sought by the U.S. during negotiations, at U.S. insistence the treaty preserves the ability of Parties to set more protective standards to better safeguard their waters against invasions. Because the structure and basic approach of the Convention in many respects reflect successful accomplishment of the United States' negotiating goals, we generally believe its basic framework and approach could serve as a useful model when considering additional domestic legislation.

Conclusion

In closing, Chairwoman Johnson, I would like to thank you and the Subcommittee for inviting me to participate in this hearing. The Administration looks forward to working with you and all of our partners to continue this important work. It is only through concerted, coordinated action that we will be able to solve the invasive species problem in the Great Lakes, and to protect and restore the lakes so that they are cleaner and healthier. I would be happy to answer any questions you may have.